

WHAT IS CLAIMED IS:

1. A method for controlling receipt gain in a digital communication system including a transmitter and a receiver for communicating data on a telephone line comprising:

receiving an initialization signal through a hybrid circuit for a time period, wherein the initialization signal is output by the transmitter and transferred on the telephone line;

comparing an average magnitude value of the initialization signal received during the time period and a reference magnitude value; and

controlling the receipt gain according to a difference between the average magnitude value of the received initialization signal and the reference magnitude value.

2. The method of claim 1, wherein the receipt gain is decreased when the average magnitude value of the received initialization signal is larger than the reference magnitude value.

3. The method of claim 1, wherein the receipt gain is increased when the average magnitude value of the received initialization signal is smaller than the reference magnitude value.

4. The method of claim 1, wherein the digital communication

system is an asymmetric digital subscriber line (ADSL).

5 5. The method of claim 4, wherein the initialization signal is a REVERB signal.

 6. The method of claim 4, wherein the initialization signal is a MEDLEY signal

 7. The method of claim 4, wherein the time period corresponds to
10 10 frames of signals.

 8. A digital communication system for communicating using telephone line comprising:

 a hybrid circuit connected to the telephone line;

15 a transmitter for transmitting an initialization signal on the telephone line through the hybrid circuit; and

 a receiver including an amplifier for amplifying signals received through the hybrid circuit;

 wherein the receiver controls gain of the amplifier according to
20 difference between a first magnitude value of an initialization signal received through the hybrid circuit at the receiver during a time period and a second reference magnitude value.

9. The method of claim 8, wherein the receiver decreases gain of the amplifier when the average magnitude value of the received initialization signal is larger than the reference magnitude value.

5 10. The method of claim 8, wherein the receiver increases receipt gain when the average magnitude value of the received initialization signal is smaller than the reference magnitude value.

11. The method of claim 8, wherein the receiver comprises:
10 a demodulator for demodulating signals amplified by the amplifier; and
a gain controller for storing signals demodulated by the demodulator received during the time period time and for controlling the gain of the amplifier according to a difference between the average magnitude value of the stored signal and the reference magnitude value.

15 12. The method of claim 11, wherein the gain controller comprises:
a profiler for storing the signals demodulated by the demodulator during the time period;

a look-up table for defining compensation values corresponding to
20 differences between the magnitude of the received initialization signal and the reference magnitude value;

a slicer for calculating an average magnitude value of the signals stored in the profiler and determining a compensation value according to a

difference between the average magnitude value and the reference magnitude value with reference to the look-up table; and

an automatic gain controller for controlling gain of the amplifier according to the determined compensation value.

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13. The method of claim 8, wherein the digital communication system is an asymmetric digital subscriber line system.

14. The method of claim 13, wherein the initialization signal is a
10 REVERB signal.

15. The method of claim 13, wherein the initialization signal is a MEDLEY signal.

15 16. The method of claim 13, wherein the time period corresponds to 10 frames of signals.